

I claim:

1. A compact, self-contained and moveable apparatus for treating wastewater containing a substantial volume of water and substantially lesser amounts of, at water boiling points, non-volatile contaminants, the apparatus comprising:

5 (a) a fluid vessel to collect wastewater and having at least a partially open top wall, side walls and a bottom wall,

(b) means for delivering wastewater to the fluid vessel,

(c) a heating vessel surrounding and spaced from at least the side walls and the bottom wall to form an interior heating chamber between the heating vessel and the fluid vessel,

10 (d) a heating element positioned in the heating chamber to generate heat sufficient to vaporize the wastewater and form water vapor,

(e) a heat transfer liquid filling at least a substantial portion of the heating chamber to transfer the heat generated by the heating element to the fluid vessel walls,

15 (f) an outer jacket substantially surrounding the heating vessel and spaced from the heating vessel to define an insulating space between the jacket and heating vessel, and

(g) vapor exhaust means for expelling the water vapor from the fluid vessel.

2. Apparatus for treating wastewater according to Claim 1, wherein the heat transfer liquid is a mineral oil.

3. Apparatus for treating wastewater according to Claim 1 and further comprising
20 means for causing ambient air to flow through the insulating space to facilitate vapor exhaust.

4. Apparatus for treating wastewater according to Claim 1 and further comprising a moveable wastewater supply tank positioned under the outer jacket for supplying wastewater to the delivering means, the tank including means for filtering larger particles from the wastewater.

25 5. Apparatus for treating wastewater according to Claim 1, wherein the delivery means, the heating element and the vapor exhaust means are electrically operated, and further comprising electrical circuit means for providing electrical power and a switch box accessible to

an operator and containing electrical switches to set the temperature of the heating means and the time of operation of the heating element and vapor exhaust means.

5 6. Apparatus for treating wastewater according to Claim 1 and further comprising a disposable liner made of a waterproof and nonporous material insertable into and lining the vessel and receiving the wastewater, the wastewater contained in the liner being evaporated and leaving a residue of contaminants contained in the liner to be disposed of with the liner.

10 7. The apparatus according to Claim 6 in which the liner comprises a silicone rubber coated, fiberglass woven fabric capable of withstanding heat up to about 450° F.

15 8. Apparatus for treating wastewater according to Claim 1 and further comprising control means for maintaining the temperatures of the heat transfer liquid and the heating element within a predetermined range of values.

20 9. The apparatus according to Claim 8, wherein the control means comprises at least a first temperature sensor measuring the temperature of the heat transfer liquid and at least a second temperature sensor measuring the temperature of the heating element, and means responsive to the temperatures sensed by the temperature sensors for controlling the heating of the heating element substantially only when the difference in the temperatures of the heat transfer liquid and the heating element is less than a preset value.

 10. The apparatus according to Claim 9, wherein the first temperature sensor is suspended in the heat transfer liquid and spaced from the heating element, and the second temperature sensor is in contact with the heating element